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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,125	07/09/2007	George Fodor	43315-232518	8327
26694	7590	04/30/2008		
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EXAMINER				
SHECHTMAN, SEAN P				
ART UNIT		PAPER NUMBER		
2121				
MAIL DATE		DELIVERY MODE		
04/30/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/585,125

**Applicant(s)**

FODOR ET AL.

**Examiner**

Sean P. Shechtman

**Art Unit**

2125

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 6/30/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because very few elements of Figs. 1, 4, and 5 are barely visible, and the entirety of the figures cannot be seen. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.
2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claim 11 is objected to because of the following informalities: Referring to claim 11, line 3, "withthe" should be "with the". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-19, 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-19, 21-23 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph. The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claims 1, 14, 19, recites the limitation "the relevant flatness fault type" in for example, line 8 of claim 1. There is insufficient antecedent basis for this limitation in the claim. It will be assumed that "the relevant flatness fault type" is "a relevant flatness fault type".

Claims 1, 14, 19, recites the limitation "the visual picture" in for example, line 10 of claim 1. There is insufficient antecedent basis for this limitation in the claim. It will be assumed that "the visual picture" is "a visual picture".

Claims 1, 14, 19, recites the limitation "the measurement information" in for example, line 10 of claim 1. There is insufficient antecedent basis for this limitation in the claim. It will be assumed that "the measurement information" is "measurement information".

Claim 10 recites the limitation "the automatic comparison" in line 3. There is insufficient antecedent basis for this limitation in the claim. It will be assumed to be "an automatic comparison".

Claim 16 recites the limitation "the mapping" in line 3. There is insufficient antecedent basis for this limitation in the claim. It will be assumed that claim 16 depends on claim 15.

Claim 17 recites the limitation "the mapping" in line 3. There is insufficient antecedent basis for this limitation in the claim. It will be assumed that claim 17 depend on claim 16.

Claim 10 is rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim 13 recites the limitation "the result of the mapping by morphing to the measured information from a reference model" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. Referring to claim 13, it is unclear what is done "by morphing", the adding or the mapping? Referring to claim 13, it is unclear what is "to the measured information" and what is "from a reference model"?

Claim 11 recites the limitation "the currently performed optimization algorithm " in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the measured data" in lines 1-4. There is insufficient antecedent basis for this limitation in the claim.

Referring to claims 21, 22, the phrase "the computer program code means is for carry out the further step of at least partially providing the computer program through the internet", is unclear.

Due to the number of 35 USC § 112 rejections, the examiner has provided a number of examples of the claim deficiencies in the above rejections, however, the list of rejections may not be all inclusive. Applicant should refer to these rejections as examples of deficiencies and should make all the necessary corrections to eliminate the 35 USC § 112 problems and place the claims in proper format.

Due to the vagueness and a lack of clear definition of the terminology and phrases used in the specification and claims, the claims have been treated on their merits as best understood by the examiner.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 14-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Although the claims are directed to a device comprising various means, all of the means could reasonably be interpreted by one of ordinary skill in the art, in light of the instant specification and claims (page 19, lines 16-23 and claim 19), to be software, such that the device comprising various means is software, per se. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither

computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

6. Claims 14-19, 21, 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed computer-readable medium can be interpreted to be in the form of a signal, such as a signal over a network or the internet (see claims 21-22). Such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of § 101.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4, 7-9, 12-16, 18, 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,535,129 to Keijser (hereinafter referred to as Keijser) in view of U.S. Pat. No. 4,736,305 to Watanabe (hereinafter referred to as Watanabe).

Referring to claims 1, 14, 19, Keijser teaches a method, device, program, for optimizing measurement and control of the flatness of a strip of rolled material (whole document; Col. 4, lines 49-61), comprising:

means for fusion or morphing a visual picture with measured information (Fig., any phi function and feedback from flatness curve; OR, Fig. 1, any phi function and Col. 5, lines 31-41, stress distribution phi obtained by measurement),

means for creating a set (a set can be one or more) of reference strip models for known flatness fault types (Fig., flatness error f referenced in evaluation 3; Col. 5, lines 19-30, f1, f2...fn; see also par. 47 of the instant specification),

means for creating a set of space conversion matrices, which are known to correct the known flatness fault types by optimally qualifying actuator behavior during flatness control for the given flatness error type (Fig., Cs, Cb, Cf; Col. 6, lines 1-13),



means for choosing an associated actuator space conversion matrix (Fig., Cs, Cb, Cf associated with optimum control; Abstract; Col. 6, lines 14-40), and  
means for optimizing the control with the space conversion matrix (Abstract).

2, 15, 16. The method according to claim 1, further comprising: making a mapping between measurement and control by associating to relevant flatness fault types a reference strip model and an actuator space conversion matrix (Col. 5, lines 42 – Col. 6. lines 13).

3. The method according to claim 1, further comprising: making an enhanced mapping between measurement and control by an actuator correction algorithm using morphed information (Col. 6, lines 30-39; Fig. elements 8, 10, 12).

4, 18. The method according to claim 1, further comprising: mapping each reference strip model to its corresponding vector space conversion matrix according to the flatness fault type (Col. 5, lines 42 – Col. 6. lines 13).

7. The method according to claim 1, further comprising: converting actual strip to the visualization format used for reference strip models (Fig. flatness curve; OR Fig. 1, any phi function and Col. 5, lines 31-41, stress distribution phi obtained by measurement).

8. The method according to claim 1, further comprising: having visual access to the strip by an operator (Col. 1, lines 40-64; Col. 5, lines 17-30).

9. The method according to claim 1, further comprising: comparing reference strip with actual strip visualization format (See Fig. flatness curve compared with flatness reference).

12, 13. The method according to claim 1, further comprising: adding the result of the mapping by morphing to the measured information from a reference model (Fig., Col. 5, lines 42 – Col. 6. lines 13).

Keijser teaches all of the limitations set forth above, and further teaches means for visualizing the strip, and means for determining a relevant flatness fault type (see par. 47 of the instant specification) by comparing the visualization to a flatness reference (See Fig. flatness curve compared with flatness reference). The examiner respectfully submits that the means for visualizing the strip, and means for determining a relevant flatness fault type by comparing the visualization to one or more reference strip models, as claimed, is not required to be related with the rest of the claimed elements. However, Keijser fails to teach means for determining a relevant flatness fault type by comparing the visualization to a reference strip model.

However, Watanabe teaches means for visualizing the strip, and means for determining a relevant flatness fault type by comparing the visualization to a reference strip model (Fig. 4, sheet crown or flatness % compared with target value line or allowable bounds lines or any line).

Keijser and Watanabe are analogous art because they are from the same field of endeavor, rolling.

All the components/elements of the method, device, program, are known in Keijser and Watanabe. The only difference is the combination of the "old elements" into a single method, device, program. Thus, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the relevant flatness fault type determination taught by Watanabe with the method, device, program taught by Keijser, since the operation of the means for visualizing the strip, and means for determining a relevant flatness fault type by comparing the visualization to a reference strip model, is in no way dependent on the operation of the other components/elements of the method, device, program, and the relevant flatness fault type determination could be used in combination with the other components/elements of the method, device, program to achieve the predictable results of determining a relevant flatness fault type by comparing the visualization to a reference strip model.

Or, because both references teach determining a relevant flatness fault type, it would have obvious to one of ordinary skill in the art at the time that the invention was made to substitute one determination of a relevant flatness fault type for the other to achieve the predictable result of determining a relevant flatness fault type by comparing the visualization to a reference strip model.

8. Claims 5, 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe as applied to the claims above, and further in view of U.S. Pat. No. 6,411,862 to Hazama et al (hereinafter referred to as Hazama).

Referring to claims 5, 10, Keijser in view of Watanabe teaches all of the limitations set forth above, however, fails to teach selecting a reference strip model by comparing available reference strip models with the actual strip; manually tuning an automatic comparison.

However, Hazama teaches selecting a reference strip model by comparing available reference strip models with the actual strip (Col. 33, lines 5-30; Col. 86, lines 41-43); manually tuning an automatic comparison (Col. 85, lines 1-67; Col. 23, lines 19-Col. 24, line 65).

Keijser in view of Watanabe and Hazama are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Hazama with Keijser in view of Watanabe because Hazama teaches logically storing both the design and manufacturing information for each customer's order, so that it may be easily accessed and retrieved from any area in the factory. Furthermore, Hazama teaches searching previous job information, including design and manufacturing information, based on various search criteria. The search criteria may include, for example, the basic features and attributes of the sheet metal component to be manufactured, so that previous job information relating to an identical or similar part can be utilized to reduce the overall manufacturing time of future jobs. Furthermore Hazama teaches replacing the traditional paper job or work sheet, associated with each customer's order, with an electronic job sheet that can be instantaneously accessed from any location in the factory. The electronic job sheet may

be displayed at any location and include critical design and manufacturing information, including the 2-D and/or 3-D model view of the component, the tooling selection, the optimum bending sequence, the required staging information, and the bar code or identification number associated with the job. The electronic job sheet may also include an audio and/or video portion recorded by a bending operator to indicate, for example, any special instructions or procedures that may be helpful when running the same job or a similar job again in the future (Col. 3, line 66 – Col. 9, line 60).

9. Claims 6, 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe as applied to the claims above, and further in view of U.S. Pat. No. 4,551,805 to Shimoda et al (hereinafter referred to as Shimoda).

Referring to claims 6, 23, Keijser in view of Watanabe teaches all of the limitations set forth above, however, fails to teach enhancing the measured data by interpolating the reference model with measured flatness data; wherein the measured data is enhanced by using morphing.

However, Shimoda teaches enhancing the measured data by interpolating the reference model with measured flatness data; wherein the measured data is enhanced by using morphing (Abstract; Fig. 2, Fig. 4, Fig. 6; Col. 4, lines 12 – Col. 6, lines 24).

Keijser in view of Watanabe and Shimoda are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Shimoda with Keijser in view of Watanabe because Shimoda

teaches the recognition of configuration defect pattern is facilitated and the correspondence between the control actuators and the configuration defect pattern becomes clear, the control becomes both simple and effective and the local configuration defects can be clearly separated, resulting in a remarkable increase in the configuration control of strip material (Col. 1, lines 50-68).

10. Claims 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe as applied to the claims above, and further in view of U.S. Pat. No. 5,287,433 to Prunotto et al (hereinafter referred to as Prunotto).

Referring to claim 11, Keijser in view of Watanabe teaches all of the limitations set forth above, however, fails to teach synchronizing measured data with video samples and with a currently performed optimization algorithm.

However, Prunotto teaches synchronizing measured data with video samples and with a currently performed optimization algorithm (Col. 27, lines 12-26).

Keijser in view of Watanabe and Prunotto are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Prunotto with Keijser in view of Watanabe because Prunotto teaches activating an acoustic alarm signal so that the operator can arrange for rectification of the assembly of the bending installation (Col. 27, line 12-26). Furthermore, Prunotto teaches after a sheet metal bending installation similar to a specimen installation has been assembled, the system of the present invention is able,

by detecting of the coordinates of the position of the manipulator device in three predetermined configurations, and by comparing them with the corresponding coordinates of analogous configurations on the specimen system, to test if the configuration of the assembled installation is correct, and of warning, the operator, and moreover, in the case of correction of this assembled configuration, the system of the present invention is able automatically to adapt the sequence of movement command and control signals dimensionally for this manipulator device, which signals were defined on the specimen installation, taking into account the small dimensional differences which inevitably exist between the two installations. In this way, therefore, it is not necessary to have to define a new sequence of command and control signals (for an already defined bending cycle) for each new installation fitted, and the sequence already memorised and defined on the specimen installation can be utilised, with evident advantages of reduction in preparation times for this already defined bending cycles for new installations (Col. 31, lines 38 – Col. 32, line 15).

11. Claims 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe as applied to the claims above, and further in view of U.S. Pat. No. 6,463,352 to Tadokoro et al (hereinafter referred to as Tadokoro).

Referring to claims 21, 22, Keijser in view of Watanabe teaches all of the limitations set forth above, however, fails to teach wherein the computer program code means is for carry out the further step of at least partially providing the computer program through the internet.

However, Tadokoro teaches the computer program code means is for carry out the further step of at least partially providing the computer program through the internet (Col. 41, lines 16-47).

Keijser in view of Watanabe and Tadokoro are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Tadokoro with Keijser in view of Watanabe because Tadokoro teaches the user interface provided at each browser station is flexible and changes according to access level and served data. In this manner, for each facility employing at least one (usually several) cutting machines, the system permits the monitoring and process management of work status and work flow from anywhere within the facility but also prevents inappropriate access. Since the same protocol is used for the facility system and the Internet at large, communications and -access are provided at all levels (facility-wide communications as well as extra-facility communications from any client browser at which a privileged user logs in).

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPS

Sean P. Shechtman

April 27, 2008

/Sean P. Shechtman/  
Primary Examiner, Art Unit 2121